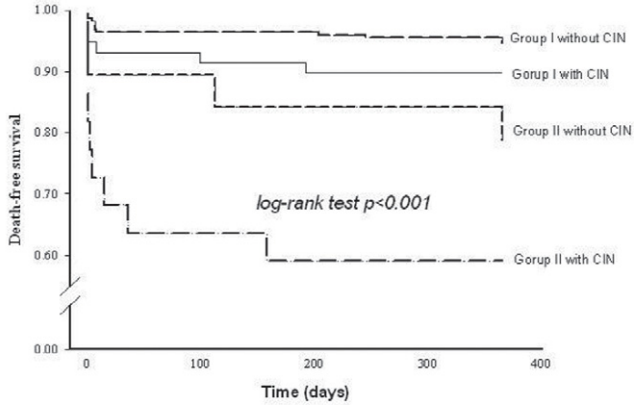

Conclusion: In STEMI patients treated with primary PCI, increased admission serum creatinine was strongly associated with 12-month mortality and CIN.

TCT-499

Comparison of 4 Years Clinical Outcome of Stent Implantation in Renal Failure Patients with Dialysis: Comparison with Bare Metal Stents, First and Second Generation Drug-Eluting Stents

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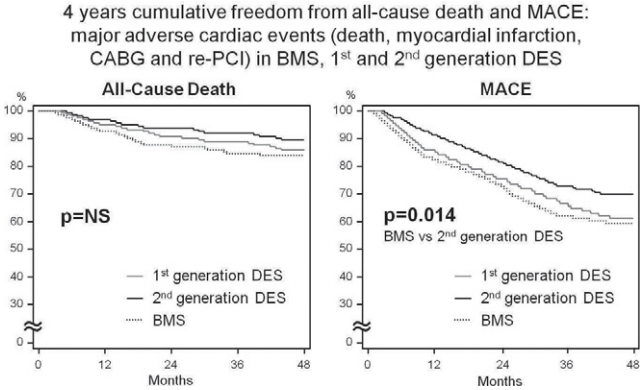
Background: The aim of study is to compare the 4 years clinical outcome of stent implantation with bare metal stent (BMS), first generation (sirolimus-eluting and paclitaxel eluting stent: 1st DES) and second generation (Xience V and Nobori: 2nd DES) drug-eluting stent implantation in chronic renal failure with dialysis (CRF-HD).
Methods: A prospective analysis of 898 CRF-HD patients with CAD (288 BMS, 311 1st DES and 299 2nd DES) in five high volume Asian centers after successful stenting was performed. The study endpoints were all cause of death and major adverse cardiac events (MACE: death, MI, CABG, CV event and re-PCI) at 4 years.
Results: The baseline clinical characteristics between 3 groups were similar. See figures for clinical results.



Conclusion: The use of 2nd generation drug-eluting stents in patient with CRF-HD was significantly lesser incidence of MACE than that of BMS at 4 years.

TCT-500

Effectiveness of Theophylline in Prevention of Contrast-Induced Nephropathy in Risky Egyptian Patients Undergoing Elective Coronary Angiography or Percutaneous Intervention: A Randomized Controlled Trial

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Background: Contrast-induced nephropathy (CIN) is the third most common cause of hospital acquired acute renal failure and is associated with increased morbidity and mortality. Among risky patients, only intravenous (IV) hydration has proved effective for prevention. The use of theophylline, a selective renal adenosine antagonist has yielded conflicting results. The aim of this study was to examine the effectiveness of theophylline in prevention of CIN when added to IV hydration and N-acetylcysteine (NAC) in moderate and higher risk patients.
Methods: Sixty patients with stable serum creatinine and at least moderate risk for CIN according to Mehran's risk score were included in this parallel-group, 1:1, single-blind, randomized controlled trial. Patients were randomized to IV hydration (1ml/kg/h for 24 h), NAC (600 mg bid for 2 days), plus placebo (group P) or IV hydration, NAC, and Theophylline (200 mg in 100 ml 0.9% saline, as IV infusion 30 minutes before contrast-medium (CM) administration) (group T). Patients underwent standard coronary angiography +/- angioplasty. Serum creatinine (SCr) was assessed just before and 72 h after contrast administration and estimated glomerular filtration rate (eGFR) was calculated according to the Modification of Diet in Renal Disease (MDRD) formula. CIN was defined as an increase in SCr concentration of >= 0.5 mg/dl or >= 25% after 72 h of CM injection.
Results: Among group P, 6 patients (20%) developed CIN while none of the patients in group T developed CIN. Theophylline also significantly decreased SCr (p=0.0001) and increased eGFR (p=0.001) at 72 hours. Regression analysis showed that anemia, chronic renal impairment, high CM dose, and advanced age were independent predictors for deteriorating renal function after CM administration.
Conclusion: Theophylline seems to be an effective prophylaxis against CIN for moderate and higher risk patients undergoing coronary angiography or angioplasty. It offers additive protection when added to IV hydration and NAC.

TCT-501

Baseline Renal Dysfunction is Associated with Worse Outcomes in Patients Undergoing Primary Percutaneous Coronary Intervention for ST-elevation Myocardial Infarction

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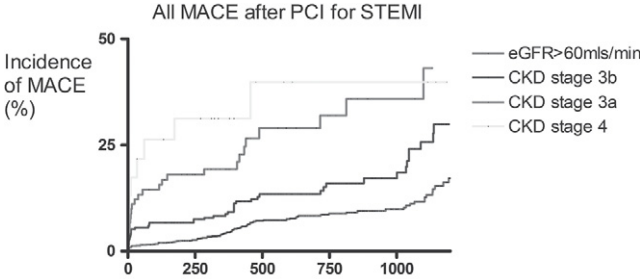
Background: Renal dysfunction is associated with worse mortality following acute coronary syndromes. However there is a paucity of data assessing this relationship after primary PCI (PPCI) for STEMI.
Methods: Prospective data upon 1503 patients who underwent PPCI at a tertiary cardiac centre between 2004 and 2010 was analysed. Patients were grouped by estimated glomerular filtration rate (eGFR) (calculated using the modified diet in renal disease equation) into chronic kidney disease stage 4 (CKD4) (eGFR 15 to 30 ml/min), CKD3b (eGFR 30 to 45 mls/min), CKD3a (eGFR 45 to60 mls/min) and CKD1/2 (eGFR>60mls/min). Mortality data was collected from the Office of National Statistics. 3-year composite of MACE (death, reinfarction, stroke and target vessel revascularisation) were compared between groups.
Results: 25 patients were in the CKD4 group, 95 patients in the CKD3b group, 282 patients in the CKD3a group and 1101 patients in the CKD1/2group. Co-morbidity including hypertension, diabetes mellitus, previous MI and left ventricular impairment were more common in patients with lower eGFR. In hospital MACE was more frequent in patients with lower eGFR(32% in CKD4 vs 13.7% in CKD3b vs 10.3% in CKD3a vs 3.6 in CKD1/2, p<0.0001). Long term MACE was increased with declining eGFR (OR=4.84, 95%CI 2.94 to 7.96, when comparing the highest and lowest eGFR groups)(Figure.1). After adjustment renal function based on the eGFR at admission remained a strong independent predictor of outcome.



Conclusion: Baseline renal dysfunction in patients undergoing primary PCI is associated with an increased risk for combined death, re-infarction and recurrent angina. This risk increases linearly with declining eGFR.

TCT-502

Cystatin C is superior diagnostic tool compared with conventional Serum Creatinine or Estimated Glomerular Filtration Rate in prediction of Contrast Induced Nephropathy

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Background: Impaired renal function is well known potent predictor of contrast induced nephropathy (CIN). Serum creatinine and creatinine based estimated glomerular filtration rate are the most commonly used biomarker of renal function, but they have many limitation in accuracy. The purpose of this study is to evaluate whether